



## Indiana Department of Education

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### K-2 Mathematics Resources to Extend and Enrich the Core Curriculum Appropriate for High Ability Students Indiana Academic Standard Strand:

#### *Data Analysis*

Resource	Annotation	Differentiation Tip(s)	Correlating Indiana Academic Strand Standards	Correlating Indiana Academic Process Standards
<p>AIMS Education Foundation (2007) <b><i>Solve It! K-1: Problem Solving Strategies</i></b>. Fresno, CA: AIMS Education Foundation.  <a href="http://www.aimsedu.org">www.aimsedu.org</a>            (ISBN: 978-1-932093-14-8)</p> <p><i>Also found in:</i></p> <ul style="list-style-type: none"> <li>• <i>Number Sense</i></li> <li>• <i>Computation and Algebraic Thinking</i></li> <li>• <i>Geometry</i></li> </ul>	<p>This resource includes 29 activities designed to introduce and develop the following eight problem solving strategies:</p> <ul style="list-style-type: none"> <li>• Guess and Check</li> <li>• Look for Patterns</li> <li>• Use Manipulatives</li> <li>• Draw Out the Problem</li> <li>• Use Logical Thinking</li> <li>• Write a Number Sentence</li> <li>• Work Backwards</li> <li>• Organize the Information</li> </ul> <p>Through involvement in the</p>	<p><b><i>Tiered Delivery:</i></b>            The “Management” section of each activity provides specific suggestions on how to adjust the challenge level specific to that activity.</p> <p><b><i>Flexible Grouping:</i></b>            Arrange students in like-ability partners or small groups to work on problem solving activities.</p> <p><b><i>Self-Pacing:</i></b>            Allow individuals/partners/small</p>	<p>K.DA.1  1.DA.1</p>	<p>PS.1; PS.2; PS.3; PS.4; PS.5; PS.6; PS.7; PS.8</p>

<ul style="list-style-type: none"> <li>• <i>Measurement</i></li> </ul>	<p>activities, students apply grade-level academic strand content skills. This resource is ideal for math club use.</p>	<p>groups to work through the activities related to each problem solving strategy as fast and as far as they are able. Incorporate additional grade level AIMS Solve It! activities, as needed, for acceleration beyond the second grade level. (See “3-5 Mathematics Resources to Extend and Enrich the Core Curriculum Appropriate for High Ability Students”)</p>		
<p>AIMS Education Foundation (2008) <b><i>Solve It! 2nd: Problem Solving Strategies</i></b>. Fresno, CA: AIMS Education Foundation.  <a href="http://www.aimsedu.org">www.aimsedu.org</a>          (ISBN: 978-1-932093-15-5)</p> <p><i>Also found in:</i></p> <ul style="list-style-type: none"> <li>• <i>Number Sense</i></li> <li>• <i>Computation and Algebraic Thinking</i></li> <li>• <i>Geometry</i></li> <li>• <i>Measurement</i></li> </ul>	<p>This resource includes 28 activities designed to introduce and develop the following nine problem solving strategies:</p> <ul style="list-style-type: none"> <li>• Guess and Check</li> <li>• Look for Patterns</li> <li>• Use Manipulatives</li> <li>• Draw Out the Problem</li> <li>• Write a Number Sentence</li> <li>• Use Logical Thinking</li> <li>• Organize the Information</li> <li>• Work Backwards</li> <li>• Wish for an Easier Problem</li> </ul> <p>Through involvement in the activities, students apply grade-level academic strand content skills. This resource is ideal for</p>	<p><b><i>Tiered Delivery:</i></b>          The “Management” section of each activity provides specific suggestions on how to adjust the challenge level specific to that activity.</p> <p><b><i>Flexible Grouping:</i></b>          Arrange students in like-ability partners or small groups to work on problem solving activities.</p> <p><b><i>Self-Pacing:</i></b>          Allow individuals/partners/small groups to work through the activities related to each problem solving strategy as fast and as far as they are able. Incorporate</p>	<p>1.DA.1  2.DA.1</p>	<p>PS.1; PS.2; PS.3; PS.4; PS.5; PS.6; PS.7; PS.8</p>

	math club use.	additional grade level AIMS Solve It! activities, as needed, for acceleration beyond the second grade level. (See “3-5 Mathematics Resources to Extend and Enrich the Core Curriculum Appropriate for High Ability Students”)		
<p>Duea, J. and Ockenga, E. (1999) <b><i>Nifty Problem Card Deck (Levels A-F)</i></b>. Edmonds, WA: Joyful Noise Publications.  <a href="http://www.shop.joyful-noise.com">www.shop.joyful-noise.com</a></p> <p>Also found in:</p> <ul style="list-style-type: none"> <li>• <i>Number Sense</i></li> <li>• <i>Computation and Algebraic Thinking</i></li> <li>• <i>Geometry</i></li> <li>• <i>Measurement</i></li> </ul>	<p>This program offers six grade levels of problem-solving cards for K/1-6. Each level contains 72 task cards, recording sheets, answer keys, transparency masters, blackline masters, and teaching notes. These cards are ideal for running a cooperative self-paced problem-solving program.</p>	<p><b><i>Flexible Grouping:</i></b> Assign like-ability partners to work through the problem-solving cards.</p> <p><b><i>Self-Pacing:</i></b> Individuals or like-ability partners can progress through the cards in each level at their own pace, keeping track of their progress and moving through the cards as far as they are able.</p>	1.DA.1	PS.1; PS.2; PS.3; PS.4; PS.5; PS.6; PS.7; PS.8
<p>Sheffield, L.J., et al (2002) <b><i>Navigating through Data Analysis and Probability in Prekindergarten-Grade 2</i></b>. Reston, VA: The National Council of Teachers of Mathematics, Inc.  <a href="http://www.nctm.org">www.nctm.org</a></p>	<p>This resource includes activities that introduce, develop, and extend the fundamental ideas of data analysis and probability. Activities are divided into the following chapters:</p> <ul style="list-style-type: none"> <li>• Data Collection,</li> </ul>	<p><b><i>Tiered Delivery:</i></b> Match the grade level resource most appropriate to the readiness level of students. For the third through sixth grade levels of this resource, see “3-5 Mathematics Resources to Extend and Enrich</p>	<p>K.DA.1</p> <p>1.DA.1</p> <p>2.DA.1</p>	PS.1; PS.2; PS.3; PS.4; PS.5; PS.6; PS.7; PS.8

(ISBN: 978-0-8753-520-5)	<p>Organization, and Display</p> <ul style="list-style-type: none"> <li>• Question Posing and Data Analysis</li> <li>• Probability</li> </ul> <p>Blackline Masters are included.</p>	<p>the Core Curriculum Appropriate for High Ability Students.”</p> <p><b>Extend:</b> This resource is appropriate for all students. See the “Extend” section of each activity for additional challenging activities appropriate for high ability math students.</p>		
<p>VandeCreek, B. (2001) <b>Math Rules! 1st-2nd.</b> Pieces of Learning: <a href="http://www.piecesoflearning.com">www.piecesoflearning.com</a>. (ISBN: 978-1-880505-79-3)</p> <p><i>Also found in:</i></p> <ul style="list-style-type: none"> <li>• <i>Number Sense</i></li> <li>• <i>Computation and Algebraic Thinking</i></li> <li>• <i>Geometry</i></li> <li>• <i>Measurement</i></li> </ul>	<p>This reproducible resource provides a year’s worth of weekly 8-problem enrichment challenge worksheets for both first and second grade. The variety of problems covers standards from all content strands. These worksheets are ideal for homework use.</p>	<p><b>Tiered Delivery:</b> Match the grade level resource most appropriate to the readiness level of students. For the third through sixth grade levels of this resource, see “3-5 Mathematics Resources to Extend and Enrich the Core Curriculum Appropriate for High Ability Students.”</p>	<p>K.DA.1 1.DA.1 2.DA.1</p>	<p>PS.1; PS.2; PS.3; PS.4; PS.5; PS.6; PS.7; PS.8</p>